

CLAIMS

What is claimed is:

1. An apparatus for connecting first and second conduits to carry a fluid under pressure comprising:

a first face attached around an open end of the first conduit;

a pocket face attached around an open end of the second conduit and defining a pocket;

wherein the first face is fastened to the pocket face such that the first face is substantially perpendicular to walls of the pocket and adjacent to an open end of the pocket;

a gasket member slidingly engaged in the pocket and defining a passageway through a central portion thereof, the gasket member having a gasket face adjacent and substantially parallel to the first face and an opposite pressure face inside the pocket;

at least one bias element exerting a bias force on the gasket member toward the first face;

a pocket seal sealing an outer periphery of the gasket member to the walls of the pocket;

a main gasket between the gasket face of the gasket member and the first face;

wherein the pressure face of the gasket member is exposed to fluid carried by the conduits and has an area that is greater than an area of the gasket face between the main gasket and the passageway through the gasket member.

2. The apparatus of Claim 1 wherein the first face is defined by a first flange attached to the end of the first conduit, and the pocket face is defined by a pocket flange attached to the end of the second conduit.
3. The apparatus of Claim 1 wherein the main gasket comprises a main o-ring positioned in a groove on the gasket face of the gasket member.
4. The apparatus of Claim 1 wherein the pocket seal comprises a pocket o-ring positioned in a groove around one of the outer periphery of the gasket member and the walls of the pocket.
5. The apparatus of Claim 1 wherein the at least one bias element comprises at least one spring bearing against the pressure face of the gasket member at one end and against a bottom of the pocket at the other end.
6. The apparatus of Claim 1 wherein the at least one bias element comprises at least one resilient pad bearing against the pressure face of the gasket member at one end and against a bottom of the pocket at the other end.
7. The apparatus of Claim 1 wherein the gasket member and pocket are cylindrical.
8. The apparatus of Claim 1 wherein the pocket face comprises:

a pocket member defining the pocket face on one side thereof and an opposite gasket face adjacent to a face of a secondary flange member attached to the end of the second conduit, and wherein the pocket member defines a passageway

through a central portion thereof, and includes a pocket floor between the walls of the pocket and the passageway through the pocket member; and

a secondary gasket between the gasket face of the pocket member and the face of the secondary flange member;

wherein the pocket floor is to the has an area that is greater than an area of the first face of the pocket member between the secondary gasket and the passageway through the pocket member.

9. The apparatus of Claim 8 wherein the pocket floor is substantially parallel to the face of the secondary flange member.
10. An apparatus for connecting first and second conduits to carry a fluid under pressure comprising:

a first flange adapted for attachment to an open end of the first conduit;

a pocket flange adapted for attachment to an open end of the second conduit and defining a pocket;

wherein the first flange is adapted to be fastened to the pocket flange such that a face of the first flange is substantially perpendicular to walls of the pocket and adjacent to an open end of the pocket;

a gasket member slidingly engaged in the pocket and defining a passageway through a central portion thereof, the gasket member having a gasket face adjacent and substantially parallel to the face of the first flange when the first flange is fastened to the pocket flange, and an opposite pressure face inside the pocket;

at least one bias element operative to exert a bias force on the gasket member toward the open end of the pocket;

a pocket seal operative to seal an outer periphery of the gasket member to the walls of the pocket;

a main gasket adapted to be positioned between the gasket face of the gasket member and the face of the first flange;

wherein the pressure face of the gasket member is exposed to fluid carried by the conduits and has an area that is greater than an area of the gasket face between the gasket and the passageway through the gasket member.